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09/737,454	12/14/2000	Christopher D. Johnson	85CF-00101	1931

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EXAMINER

CHARLES, DEBRA F

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/737,454

Applicant(s)

JOHNSON ET AL.

Examiner

Debra F. Charles

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-17,20-32 and 35-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-17,20-32 and 35-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

1. Claims 1, 5, 6, 10, 12, 16, and 31 have been amended. Claims 3,4, 18, 19, 33, and 34 have been canceled. Claims 46, 47 and 48 have been added.

***Response to Arguments***

2. In light of the attorney's argument re 112 rejection, the 112 rejection is being revoked. In light of the amendments to claim 1, the 101 rejection is being reversed.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-2,5-11,16-17, 20-24,31-32, 35-39 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. (U.S.PAT. 6546375 B1), Freeman et al. (U.S.PAT. 6249775 B1), Graff(U.S.PAT. 6192347B1) and Glasserman et al.(U.S.PAT. 6381586B1).

Re claims 1 and 16: Pang et al. disclose a computer-implemented portfolio valuation system for rapid valuation of asset portfolios using a portfolio valuation system, the portfolio valuation system including a computer coupled to a database(Abstract, col. 2, lines 50-65), said system comprising:

a computer configured as a server(col. 16, lines 25-35) and to enable valuation process analytics(col. 4, lines 5-35, i.e. financial instrument engine);

at least one client system connected to said server through a network(col. 4, lines 15-35,col. 5, lines 1-20, Fig. 1), said server configured to:

value assets in a portfolio individually(col. 11, lines 40-65),

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list the asset values individually in tables(col. 17, lines 60-col. 18, lines 30);

optimize the bid pricing for desired risk/return tolerance(col. 9, lines 15-60,i.e. optimization, col. 11, lines 40-65).

Pang et al. disclose(s) the claimed invention except further configured with a database of asset portfolios; and aggregate to desired groups or tranches for bidding purposes. However, in col. 9, lines 10-25,col. 18, lines 45-67, Fig. 10 thereof, Freeman et al. disclose(s) local database which receives a wealth of statistical specific information about various loans; and analyzing and graphing results of computer model output combining the entire portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via consolidation within a database.

Pang et al. and Freeman et al. disclose(s) the claimed invention except by segmenting the portfolio of assets into three valuation

portions and by: Fully underwriting each asset included within a first portion of the asset portfolio including underwriting in a full cash manner to generate a full value table, Grouping and underwriting assets included within a second portion of the asset portfolio.

However, in the Abstract, col. 2, lines 50-67, col. 3, lines 40-55, col. 5, lines 45-67, col. 7, lines 1-10, col. 9, lines 55-67, col. 35, lines 5-25 thereof, Graff disclose(s) decomposing a portfolio into various different components that can be independently valued and underwritten differently. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of Graff. The motivation to combine these references is to effectively and efficiently ensure different valuations for different aspects of the portfolio.

Pang et al. and Freeman et al. and Graff disclose(s) the claimed invention except sample and using the computer to statistically infer a value for each asset included within a third portion of the asset portfolio. However, in the Abstract, col. 1, line 65 – col. 2, line 20, col. 4, lines 10-40, thereof Glasserman et al. disclose statistical sampling

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and estimating techniques to price(value) an asset. Estimating is the same as statistically inferring a value or number. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. and Graff based on the teachings of Glasserman et al. The motivation to combine these references is to effectively and efficiently apply statistical techniques to portfolio valuation.

Re claims 2 and 17: Pang et al. disclose a server is configured to subject the assets in the portfolio to an iterative and adaptive valuation in which the assets in the portfolio are individually valued(col. 4, lines 5-35, i.e. financial instrument engine, col. 11, lines 40-65, col. 16, lines 25-35).

Re claims 5,6,18, 20 and 21: Pang et al. disclose(s) the claimed invention except and use full sampling procedures for categories of large assets included within the portfolio; and use partial sampling procedures for categories of small or medium assets included within the portfolio. And sample one hundred percent of a sample group of

assets; and underwrite in full a portion of the sampling group of assets based on a determined commonality within the sampling group. However, in Fig. 1, 1A, 1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21, Tables 1, II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(infers) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via consolidation within a database.

Re claims 7, 8, 22 and 23: Pang et al. disclose(s) the claimed invention except generate a full sampling group valuation; and desegregate the full sampling group valuation according to a rule set to produce an individual full sample asset value table. And form a cluster sample group; sample one hundred percent of a representative group from within the cluster; randomly sample other groups within the cluster; and determine the values of the remaining



group by extrapolating from the cluster sample group. However, in Fig. 1, 1A, 1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21, col. 11, line 30-col. 12, line 60, Tables 1, II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claims 9 and 24: Pang et al. disclose(s) the claimed invention except re-underwrite at an asset level to produce an alpha credit analyst table; asset class adjust the alpha credit analyst table to produce an adjusted credit analyst table; and select individual assets from the adjusted credit analyst table according to tranche grouping to produce a partial sampling credit value, for use in bidding.

However, in Fig. 1, 1A, 1B, col. 2, lines 50-60, col. 3, line 10-col. 4, line

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5, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria, classifying them into separate tables, and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claim 11: Pang et al. disclose(s) the claimed invention except segment and classify assets(col. 3, lines 50-65); and evaluate the assets based upon data feedback(col. 3, lines 5-23). However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to

modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claim 31: Pang et al. disclose(s) the claimed invention except further configured with a database of asset portfolios; and sample one hundred percent of a sample group of assets; underwrite in full a portion of the sampling group of assets based on a determined commonality within the sampling group. However, in Fig. 1, 1A, 1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21, Tables 1, II and III thereof, Freeman et al. disclose(s) local database which receives a wealth of statistical specific information about various loans; and analyzing and graphing results of computer model output combining the entire portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via consolidation within a database.

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Re claim 32: Pang et al. disclose a computer according to Claim 31 programmed to subject the assets in the portfolio to an iterative and adaptive valuation in which the assets in the portfolio are individually valued(col. 4, lines 5-35, i.e. financial instrument engine, col. 11, lines 40-65, col. 16, lines 25-35).

Re claims 35 and 36: Pang et al. disclose(s) the claimed invention except segment a portfolio of financial instruments into three valuation portions;

fully underwrite a first portion of the asset portfolio;

group and sample underwrite a second portion of the asset portfolio;

and statistically infer values for a third portion of the asset portfolio.

And use full sampling procedures for categories of large assets within the portfolio; and use partial sampling procedures for categories of small or medium assets within the portfolio. And sample one hundred percent of a sample group of assets; underwrite in full a portion of the sampling group of assets based on a determined commonality within the sampling group.

However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II

and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(infers) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via consolidation within a database.

Re claims 37 and 38: Pang et al. disclose(s) the claimed invention except generate a full sampling group valuation; and desegregate the full sampling group valuation according to a rule set to produce an individual full sample asset value table. And form a cluster sample group; sample one hundred percent of a representative group from within the cluster; randomly sample other groups within the cluster; and determine the values of the remaining group by extrapolating from the cluster sample group. However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s)

a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inference techniques.

Re claims 39: Pang et al. disclose(s) the claimed invention except re-underwrite at an asset level to produce an alpha credit analyst table;

asset class adjust the alpha credit analyst table to produce an adjusted credit analyst table; and select individual assets from the adjusted credit analyst table according to tranche grouping to produce a partial sampling credit value, for use in bidding. However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, line 10-col. 4, line 5, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria, classifying them into separate tables, and then

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forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claims 46 and 47: Pang et al. disclose said step of valuing assets in a portfolio further comprises valuing assets in a portfolio wherein the assets include financial instruments(Abstract, col. 2, lines 50-65, financial derivatives are financial instruments).

Re claim 48: Pang et al. disclose assets included within the portfolio include financial instruments(Abstract, col. 2, lines 50-65, financial derivatives are financial instruments).

8. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. and Freeman et al. as applied to claim 18 above, and further in view of Graham L. Goodman et al., "A Gaussian Mixture Model Classifier Using Supervised and

Unsupervised Learning", International Symposium on Signal Processing and its Applications, ISSPA, Gold Coast, Australia, 25-30 August 1996 and Thiesson et al.(U.S. PAT. 6408290 B1).

Re claim 25: Pang et al. and Freeman et al. disclose(s) the claimed invention except configured to utilize both a supervised and an unsupervised learning process. However, in page 565-567, thereof, Graham L. Goodman et al. disclose a mixture model classifier using supervised and unsupervised learning. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of Graham L. Goodman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Pang et al., Freeman et al. and Graham L. Goodman et al. disclose(s) the claimed invention except a statistical inferencing algorithm to produce an underwriting clusters table. However, in the Abstract, col. 3 line 25-col. 4, line 30, col. 6, lines 35-65, thereof,



Thiesson et al. disclose clustering data into tables based on algorithms. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. and Graham L. Goodman et al. based on the teachings of Thiesson et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claim 26: Pang et al., Graham L. Goodman et al. and Thiesson et al. disclose(s) the claimed invention except segment and classify assets(col. 3, lines 50-65); and evaluate the assets based upon data feedback(col. 3, lines 5-23). However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

9. Claims 12,13,14,15,27,28,29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. and Freeman et al. as applied to claims 9 and 24 above, and further in view of James C. Bezdek et al., "FCM: The Fuzzy c-Means Clustering Algorithm", Computers & Geosciences, Vol. 10, No. 2-3, pp 191-203, 1984 and Kenneth L. Parkinson et al., "Using Credit Screening to Manage Credit Risk", Business Credit, March 1998, vol. 100, nbr. 3, p. 22.

Re claims 12 and 27: Pang et al. and Freeman et al. disclose(s) the claimed invention except server is configured to cluster assets using fuzzy-C means clustering (FCM). However, in pages 191-193 thereof, James C. Bezdek et al. disclose(s) the fuzzy-C means clustering (FCM) technique. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of James C. Bezdek et al. The motivation to combine these references is to ensure a consistent clustering strategy among variable data.

Pang et al., Freeman et al. and James C. Bezdek et al. disclose(s) the claimed invention except a composite High/Expected/Low/Timing/Risk (HELTR) scoring technique.

However, in page 22, 2<sup>nd</sup> paragraph thereof, Kenneth L. Parkinson et al. disclose(s) a scoring technique for bidding on lots or tranches of loans. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. and James C. Bezdek et al. based on the teachings of Kenneth L. Parkinson et al. The motivation to combine these references is ensure consistent credit analysis for all assets in the group or tranche.

Re claims 13,14,15, 28,29 and 30: Pang et al. and Freeman et al. disclose(s) the claimed invention except segment into one category assets deemed to have sufficient commonality for evaluation as a whole; and segment into a second category assets without sufficient commonality for evaluation as a whole. And divide the second category of assets into clusters; and divide the clusters into sub-clusters. And wherein said server is configured to regroup the sub-

clusters into tranches for bidding purposes. However, in pages 191-193 thereof, James C. Bezdek et al. disclose(s) the fuzzy-C means clustering (FCM) technique. This technique is inherently used to group like items together. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of James C. Bezdek et al. The motivation to combine these references is to ensure a consistent clustering strategy among variable data.

10. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. and Freeman et al. as applied to claim 18 above, and further in view of Graham L. Goodman et al., "A Gaussian Mixture Model Classifier Using Supervised and Unsupervised Learning", International Symposium on Signal Processing and its Applications, ISSPA, Gold Coast, Australia, 25-30 August 1996 and Thiesson et al.(U.S. PAT. 6408290 B1).

Re claim 40: Pang et al. and Freeman et al. disclose(s) the claimed invention except configured to utilize both a supervised and an unsupervised learning process. However, in page 565-567, thereof, Graham L. Goodman et al. disclose a mixture model classifier using

supervised and unsupervised learning. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of Graham L. Goodman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Pang et al., Freeman et al. and Graham L. Goodman et al. disclose(s) the claimed invention except a statistical inferencing algorithm to produce an underwriting clusters table. However, in the Abstract, col. 3 line 25-col. 4, line 30, col. 6, lines 35-65, thereof, Thiesson et al. disclose clustering data into tables based on algorithms. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. and Graham L. Goodman et al. based on the teachings of Thiesson et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

Re claim 41: Pang et al., Graham L. Goodman et al. and Thiesson et al. disclose(s) the claimed invention except segment and classify assets; and evaluate the assets based upon data feedback.

However, in Fig. 1,1A,1B, col. 2, lines 50-60, col. 3, lines 10-65, col. 8, line 45-col. 9, line 21,col. 11, line 30-col. 12, line 60, Tables 1,II and III, thereof, Freeman et al. disclose(s) a loan portfolio underwriting scheme that separates the assets based on specific criteria and then forecasts(extrapolating) the future value and default rate of the asset in the portfolio. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Graham L. Goodman et al. and Thiesson et al. based on the teachings of Freeman et al. The motivation to combine these references is to make the portfolio analytics more efficient via forecasting and inferencing techniques.

11. Claims 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al. and Freeman et al. as applied to claim 39 above, and further in view of James C. Bezdek et al., "FCM: The Fuzzy c-Means Clustering Algorithm", Computers & Geosciences, Vol. 10, No. 2-3, pp 191-203, 1984 and Kenneth L. Parkinson et al., "Using Credit Screening to Manage Credit Risk", Business Credit, March 1998, vol. 100, nbr. 3, p. 22.

Re claim 42: Pang et al. and Freeman et al. disclose(s) the claimed invention except server is configured to cluster assets using fuzzy-C means clustering (FCM). However, in pages 191-193 thereof, James C. Bezdek et al. disclose(s) the fuzzy-C means clustering (FCM) technique. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of James C. Bezdek et al. The motivation to combine these references is to ensure a consistent clustering strategy among variable data.

Pang et al., Freeman et al. and James C. Bezdek et al. disclose(s) the claimed invention except a composite High/Expected/Low/Timing/Risk (HELTR) scoring technique. However, in page 22, 2<sup>nd</sup> paragraph thereof, Kenneth L. Parkinson et al. disclose(s) a scoring technique for bidding on lots or tranches of loans. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. and James C. Bezdek et al. based on the teachings of Kenneth L. Parkinson et al. The

motivation to combine these references is ensure consistent credit analysis for all assets in the group or tranche.

Re claims 43,44 and 45: Pang et al. and Freeman et al. disclose(s) the claimed invention except segment into one category assets deemed to have sufficient commonality for evaluation as a whole; and segment into a second category assets without sufficient commonality for evaluation as a whole. And divide the second category of assets into clusters; and divide the clusters into sub-clusters. And wherein said server is configured to regroup the sub-clusters into tranches for bidding purposes. However, in pages 191-193 thereof, James C. Bezdek et al. disclose(s) the fuzzy-C means clustering (FCM) technique. This technique is inherently used to group like items together. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al. and Freeman et al. based on the teachings of James C. Bezdek et al. The motivation to combine these references is to ensure a consistent clustering strategy among variable data.



12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pang et al., Freeman et al. , Graff and Glasserman et al. as applied to claim 1 above, and further in view of .

Re claim 10: Pang et al., Freeman et al. , Graff and Glasserman et al. disclose(s) the claimed invention except step of using the computer to statistically infer a value for each asset included within a third portion further comprises the step of utilizing both a supervised and unsupervised learning process and a statistical inferencing algorithm to produce an underwriting clusters table which facilitates bid value. However, in Abstract, col. 50, lines 50-col. 52, line 65, col. 143, lines 40-65 thereof, Hoffberg et al. disclose(s) a neural net that learns and infers to predict the value of an asset, and table. It would be obvious to one of ordinary skill in the art to modify the invention of Pang et al., Freeman et al. , Graff and Glasserman et al. based on the teachings of Hoffberg et al. The motivation to combine these references is to effectively and efficiently incorporate a neural net into the valuation model.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra F. Charles whose telephone number is (703) 305-4718. The examiner can normally be reached on 9-5 Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent A. Millin can be

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reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Debra F. Charles  
Examiner  
Art Unit 3624

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VINCENT MILLIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600



